hide which is to be cleaned. Another pole is placed across the lower portion of the horizontally 417
leaning poles and lashed in position. The skin is then perforated and fastened to the 322
frame. When hides are to be softened, they are fixed on a smaller frame, consisting of four 281
poles, in which the side poles are anchored in the ground perpendicularly (Pl. 8, D).

Construction of most apparatus and all tool making is done by men. Young girls sometimes 462
make stretchers for squirrel skin and women commonly erect the poles for stretching
and softening moosehide.

Machines employed by the Kaska have either been purchased from traders or adapted [439]
from white sources. Among the machines in the former category are sewing machines,
owned by women but purchased by men, and outboard motors, the property of men. A 404
pulley is a common possession and in the fall is used in conjunction with an improvised 401
winch to pull boats out of the water. The winch is made by driving two poles about four 406
inches in diameter and five feet long into the ground about six feet apart. Each pole is grooved on the side which is away from the water and about six inches from the top. A smooth green pole, about four inches in diameter, is fitted into these grooves to serve as a winch. The pull of the boat is sufficient to keep the winch from slipping out of the grooves. A handle is made by lashing a green spruce pole, about two feet long and two inches in diameter, at right angles to the winch.

Every household uses such cooking utensils as frying pans, straight kettles varying in 415
size from one to five quarts, coffee pots, bowls, plates, cups, silver plated spoons and forks, 251
wash basins, and washtubs. A few families have also accumulated china cups and dishes. Bottles and jars are generally saved for storing homebrew and may also function as baby bottles, candlesticks, and sugar bowls. The fifty pound drums in which dehydrated milk is purchased are used to store rice and flour. Empty sugar and flour sacks are widely used to contain tea, rice, meat, and many other commodities. Discarded oil tins are used for storing gasoline and kerosene.

Domestically manufactured utensils include moosehide gun cases, embroidered with 415
silk thread, needle cases, made of scraps of cotton cloth, sewing kits of velvet fitted with 281
pockets and embroidered with silk thread, and envelopes of birch bark containing sinew line or pounded beaver castors.

Productive capital. In general the producer goods needed by an individual or family, 471
both home constructed and purchased, are found in every settlement. Thus each family is in an equal position to secure or create necessary consumer goods. Even if an object is not owned by an individual, it may generally be borrowed from others within the winter settlement or from nearby neighbors. If not immediately required by the owner, such articles are readily loaned, and rent is rarely or never demanded. If an outboard motor is loaned, the
borrower is only expected to supply his own gasoline. When dogs are loaned, it is with the [10]
sole stipulation that they will be reasonably well fed and otherwise cared for. In short, the necessary productive capital is widely distributed or generally accessible.

EXPLOITATIVE ACTIVITIES

During nine or more months of the year, from the middle of August till late in May, the 221
Kaska Indians are actively occupied in exploiting the resources of their sub-Arctic environ-

generally narrow, cleared only enough to permit the transit of dogs and people traveling in single file. Winter trails are better cleared and cut wider, in order to accommodate loaded toboggans and people on snowshoes. Travelers in summer may follow part of a winter trail, but generally the latter are direct routes while in summer people must bypass lakes, sloughs, and the bends of rivers. 484 487

Both summer and winter trails are marked by blazed trees which, in a well wooded area, are spaced about a hundred feet apart. In addition, men who are hunting in an unfamiliar region may make temporary blazes to guide them on their return to camp or on a subsequent visit to a meat cache. Temporary blazing consists of breaking willow branches in the direction taken. Sometimes a forked stick is planted in soft ground and another thin pole laid in the fork to point direction. In early fall, a safe crossing on newly formed ice may be marked by three or four foot long poles stuck in the snow. 487 211

Trails usually follow the contour of a country. They never adhere to the meandering courses of rivers but always portage across points of land or, in winter, arms of water, in order to save distance. A trail usually ascends a ridge diagonally rather than proceeding straight up the face. In winter, the open face of such a diagonal ascent may be bulwarked with small black spruce trees laid lengthwise along the trail. Such a bulwark guards a toboggan from sliding down the otherwise open hillside. Spruce poles, roughly trimmed of brush, may also be extended from an ascent into the branches of trees growing below the trail. Such poles are placed about four feet apart and also serve to prevent a vehicle from overturning, should it slip from the ridge. Further protection is achieved by banking ascents with snow which is kicked from the overhanging slope with snowshoes. 487

Windfalls are removed from winter trails if they are small enough to cut with an ax and light enough to lift aside. Otherwise fallen timber may be sawed in half and pushed down into the snow. When a heavy windfall blocks a trail, small sticks and snow are kicked up to make an embankment, on which the toboggan can pass over the obstacle, or else the vehicle is lifted across the block. Winter trails are maintained by whoever uses them. A man making his first trip to the trap line in autumn will cut whatever overhanging branches and windfalls obstruct his passage. With the first snow he will bulwark ascents to ridges and cut more brush. Anyone else using the trail is free to benefit from these improvements.

In summer, trails cross small creeks by means of bridges constructed by felling from one to three trees, four or five inches in diameter, across the stream. These are trimmed of branches and moved close together. Bridges are also constructed by throwing down four or five saplings, two or three inches in diameter. Large rivers are crossed by rafts. 491 [301] ●

Many points along trails and rivers are designated by place names. Such identifications are freely coined and usually originate from some outstanding feature of the site or from some memorable event associated with the place. Thus a long ridge overlooking a wide stretch of country is called See the Country. A lake is known as Excited Lake, Old Man explained, because "People come there. They stay one night. They don't know how to go on, go back, or cross the mountain. Talking, talking; family fighting [arguing] going on. They turn back." River Joe calls a slough below his winter settlement by the name of his daughter, who was born there in a temporary camp. An island in the Liard River is known as [illegible] ("Long Face") Island. [illegible] was one of Old Man's dogs. One year, as the family was 103

481 snowshoes much as he does without them, the feet being lifted sufficiently for each shoe to clear the frame of the other. In climbing a hill, the toes are bent sharply so that they will extend down through an unfilled space at the front of the center panel. In this way the toes secure an anchorage in the packed snow. In breaking trail, the hardest kind of winter travel, a person can generally cover about fifteen miles a day with such footgear. This distance can be doubled if trail is already broken.

296 Following use, snowshoes are usually brought into the house and carefully dried, after which they may be stored outdoors. Repairs on snowshoes are frequently necessary. A split frame is secured by willow splints, which are cut in a few minutes and lashed to the fractured wood with babiche.

501 Water transportation. In summer the Kaska use rafts and plank boats. Only Old Kean owns a plywood canoe of commercial origin, which he sometimes uses for fishing. Rafts are built by men where trails cross wide rivers and are also used by hunters who wish to float downstream to camp. They are about seven feet long and from three to five feet wide, being constructed from dry spruce poles some four or five inches in diameter. Two crosspieces, consisting of spruce saplings about two inches in diameter, are used to hold the logs together. The poles are generally aligned in water and the crosspieces attached with nails. In the fall, when rivers run cold, rafts are built on skids near the shore and pushed into the water when completed. When the vessel has reached its destination, it may be left on the shore for use by other travelers or it may be taken apart and the poles allowed to dry for fuel. In spring, larger rafts are sometimes built in order to float a family downriver to the trading post with dogs, fur, and household equipment.

502 501 Rafts are managed with the aid of poles, which serve as sweeps and also function when the craft must be pushed away from drift piles. Accidents with rafts are not infrequent, the use of these vessels being regarded as particularly dangerous in spring and fall, when rivers run with ice. In the spring of 1944, Stella Wiley lost her seven year old son when a raft on which two adults and three children were traveling hit a drift pile and capsized. Her winter's catch of fur was also destroyed.

Plank boats are owned by many families and are either built by Indians from mill sawed lumber or are purchased from white men. They average about eighteen feet in length and are about three feet wide. For long distances, propulsion is always by means of a gasoline driven outboard motor. To cross a river, however, boats are poled or rowed. Oars are of native manufacture, being large and crudely cut from a piece of board lumber, and characterized by a narrow blade, which is roughly edged, and a thick shaft about five feet long. Oars are used with steel oarlocks.

To cross a river with a strong current, the boat is dragged as far upstream as possible and is then pointed upstream from the shore. As the boat moves toward the center of the river and the current is felt to swing the prow around, the rower on the lower end rows hard while the person on the upper end pulls more easily. To control further the force of the current, weight is generally placed in the back of the craft. Men and women as well as adolescent children row and pole boats.

A boat lacking motor power may be pushed by another vessel which is equipped with an engine. Pushing is regarded as more efficient than lashing one boat alongside another, although this is also done. When a boat is to be pushed, manila line or a pair of spruce 501 saplings are used to fasten the vessels together. If poles are used, one end of each pole is 502 bent to fit into the gunwales of each boat where the ends are lashed. This device is said to prevent the boats from breaking if they drop down a shelf of swift water. If two boats are used in conjunction, dogs generally ride in the forward craft and passengers with goods behind.

Once, in rainy weather, Louis Man erected a mosquito tent in his boat. The tent was 501 placed over a pair of bent spruce saplings anchored in the gunwales and forming an arc. The front and rear ties of the shelter were attached to the gunwales. Under this shelter rode Louis' wife, infant son, and Irene Wiley with her baby. Louis and his fourteen year old daughter, Eleanor, alternated running the outboard. The ethnographer met the party as he and Nitla were fishing downriver in a plywood canoe. Louis signalled to Nitla and the two vessels were lashed together side by side with only a slight reduction of speed on Louis' part. The journey was then resumed with all the passengers in the larger vessel.

In fall, boats are removed from water and stored high on the shore in order to prevent the spring break-up from smashing them.

Routine of travel. In contrast to the leisurely life of the Indians in camp, considerably 484 more determination marks travel behavior once a journey has been undertaken. An effort is made to begin long journeys by getting a start early in the day, in winter sometimes an hour or two before sunrise. The demolition of the camp and the packing of the household equipment is undertaken by women while men transport the goods to boat or toboggan. When the tent has been taken down, the poles which supported the structure are left standing. This, however, is scarcely for the convenience of the next comer as only rarely will one family camp in another's campsite. Farewells, beyond a casual good-bye, are rarely [576] taken, even when a family expects to be gone for a long period.

On walking trips, rest stops are frequently initiated by the leader of the party, but 481 these stops are of only brief duration, particularly in winter. Smoking is a common feature 484 of such rests. People try to cover at least half the distance of a day's journey before pausing [576] for lunch. Lunch stops are marked by a fire and the preparation of tea; they seldom last 464 more than forty-five minutes.

In the course of winter travel, fire is always made as soon as any member of a party 484 complains of serious chilling. If gloved hands perspire in the course of a journey, they are 753 exposed to the cold until chilled and then regloved; this prevents the mittens from becoming damp with perspiration and freezing. Should the fingers become cold in walking they are held tightly clenched within the mittens and the arms swung. Against the dampness absorbed from falling snow, there is no protection while traveling. When camp is reached, however, clothes are thoroughly dried or changed for fresh garments. The bleached faces of some people returning to the trading post in spring indicate that individuals are often careless or unaware of the danger of frostbite. No chances are taken with wet moccasins, however, and footwear is promptly dried or changed should it become wet.

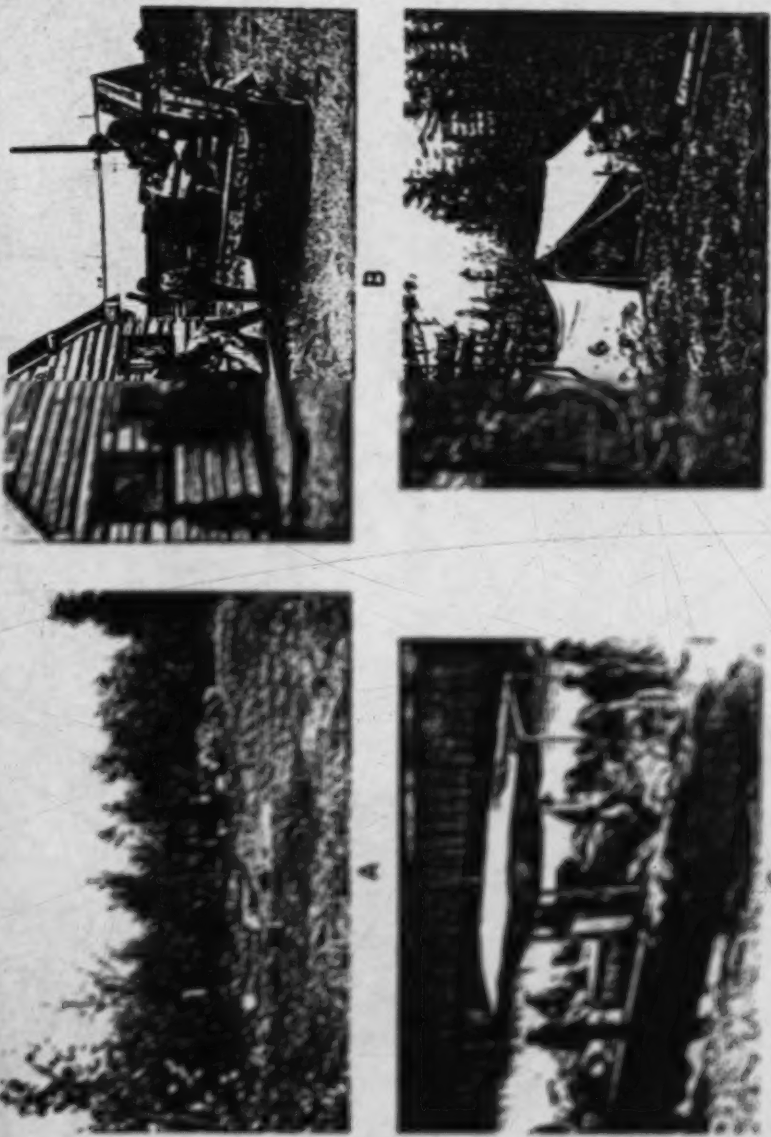
Camp is generally made shortly before dark. If women accompany the party, they now 484 take over the task of cutting poles and laying brush while men transport the necessary things from the craft or vehicle and perhaps start a fire. Unneeded supplies are left in the

1: Honigmann E-5 (1943-1945) 1949 ND12 Nahane ND12

YALE UNIVERSITY PUBLICATIONS IN ANTHROPOLOGY: 40

[HONIGMANN] PLATE 9

342
493



[illegible]

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[END PLATE 9]

262
136 The flesh of the otter, marten, mink, fisher, wolverine, wolf, dog, bush rat, and mouse was not eaten. Only in cases of direct necessity did people eat flesh of these animals, and the last resource was the dog. Of birds, grouse of all kinds, ducks of all kinds, geese, swans and a few other large birds were eaten.

Fresh water fish of all kinds such as salmon, trout, grayling, white fish, pike etc., were eaten.

No reptiles and insects of any kind were eaten. Any person who ate anything unusual or different from the food eaten by all was laughed at and spoken about. /Ed: this section was not completed/.

TRAVEL, TRANSPORTATION AND TRADE

BOATS

[498]
● 501 Travel was nearly all on foot and this still continues to be the principal method of locomotion. It seems that formerly water travel was not very important to the Tahltan. According to tradition there were no canoes or at least no good canoes long ago. Bark canoes were used in a few places where crossings were made, also on some parts of sluggish streams, and on some lakes. These canoes were made for temporary use only and were seldom used excepting for short periods. They were never used more than a single season and usually the parties who made them threw them away when through with them just as people do rafts. They were roughly made of bark of large trees (varieties uncertain) peeled in the summer and sewed and fastened with wattup,/spruce roots/and light withes. They were so scarce and have been out of use so long that very little is now remembered about them. It is said they were of about the same shape as the skin canoes now used by the Kaska, but were of cruder make than the bark and skin canoes made by tribes to the east and north. Very few large trees having suitable bark for canoe covering are to be found in the Tahltan country excepting within the coast or Cascade Range. Some informants claim that long ago even bark canoes were not made and rafts alone were used. These were of poles lashed together with withes. It seems at least that in ancient days rafts were much more used than bark canoes and in some parts of the Tahltan country they were the only means employed for crossing of rivers and

lakes and for hunting and fishing on their waters. Rafts were also temporary and thrown away after using. After trade sprang up with the Tlingit, dugout canoes of the types used by the Tlingit were bought occasionally by the Tahltan and used on the Stikine River for crossing and moving up and down the river. Nowadays boats made by themselves or by White residents are used almost altogether. Rafts are still used for crossing streams back in the mountains. Good dugout canoes were taken great care of. They were kept in shady places and protected from the weather. Canoe houses were made for some of them, in good positions above high water mark. The earth was excavated and banked up at the sides and the excavation roofed with poles and sheets of bark. (See photo.) Paddles, poles, tow-ropes and in later times sails used on dugout canoes were all of the same kinds as used by the Tlingit. 501 [4W]

Snowshoes

Snowshoes were in universal use in the winter time for traveling and hunting and are still as much used as ever. Although snowshoes have been used by the tribe for a very long time back still tradition is emphatic in saying that at one time they were unknown. (See similar tradition among the Carrier, see Morice p. 151.) Most informants agree that the first snowshoes were flat and had a round head. (It seems the snowshoes first used by the Carrier were of this type, see Morice p. 152 and figure 141.) Later round-headed snowshoes were bent up a good deal /i.e., turned up at the toe./ Then the kind having the head shaped like a duck's breast-bone came into vogue, and in late times these were replaced by the present shovel-nosed type. At first sinew was used for filling /webbing./ and later babiche. I collected the following story regarding the origin of the snowshoe. 292 [481] [17]

> "Very long ago, when the World was young, people were nearer to animals than they are now, for they were ignorant of many of the arts and had few tools and implements. At this time they had no knowledge of snowshoes and when the snow was very deep they could not travel far from their camps. People wanted to have snowshoes and tried the making of many different kinds and shapes. Some had round frames and some were long. The tails and noses were of various types. All the shoes were rude and none of them 773 538

6: Honigmann E-5 (1943-1945)1954 ND12 Nahane ND12 /

Frances Lake
Upper Liard

000 formants, who were young men with records of considerable time spent in the Liard Valley. It is likely that the patterns already presented also largely obtained in the Frances Lake area.[9]

TRAVEL AND TRANSPORTATION

484 *Upper Liard Kaska.* Foodgetting among the Indians of the taiga depended thoroughly upon mobility. Although a little travel occurred for other purposes, two main patterns of mobility may be distinguished. First, groups of people moved with their belongings to various parts of the tribal territory in search of new food resources to exploit. Such travel took place, for example, in the fall when the population moved to the mountains and again in early winter when they journeyed down to fish lakes. Second, there took place a great deal of "short term" travel, required of men pursuing game or of women visiting fish nets and berry patches. The Indians remained mobile in every season but the techniques of travel differed to a considerable extent between winter and summer. [481 501] With snow on the ground and bodies of water covered with ice the toboggan and snowshoe provided the basic travel aids while in the season of open water travelers relied on the canoe, paddle, and raft.

493 281 Animal skins as well as wood were utilized for toboggans. Beaver skins prepared with the hair served well for traction, the smoothness of the pelt aiding their easy passage over the snow. Three such skins sewn together constituted a good sized vehicle. A number of skins from the hind legs of moose or caribou might also be sewn together with sinew to make a toboggan six feet long and two feet wide. To hold goods securely the rear portions of skin toboggans were stitched "like a baby bag." Prepared by a woman, a skin vehicle would last a winter or even two if stored in a dry place when the thaw began to melt. 493 332 A man manufactured undecorated wooden toboggans, tamarack being the preferred material. After splitting the green wood with a wedge he planed the boards with his crooked knife. Wood from the exterior section of the tree bent most readily, the bending process being accomplished by moistening the lumber with warm water and then forcing the board back "against a pole."[10] The running boards were sewn to cross

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[9] Similar patterns are reported for the Pelly River people by Field, who says, for example, that the Pelly River people moved into "a good game country about the end of August when all game is fat, to put up a cache of dry meat for the winter months." In fall women busied themselves drying groundhog and gopher. The Indians of the Ross and Pelly valleys subsisted primarily on meat and fish. Men "used bows and arrows to hunt with, spears, snares, deadfalls etc. They would make long fences when the caribou and sheep came below timberline, sometimes packing poles to make their fences up with on top of the mountains. They would leave spaces big enough for a caribou or sheep to go through in their fences and get snared in them. Whenever a herd was sighted they would try to surround them and drive them through their fences." Cordage for snares came from twisted "sinew or caribou skin raw" and the line was anchored to a movable pole toggle. "Beaver the Indian kills every way, with nets in winter, spears and shoots them .... and kills them with a club." The gaff stick also served in hunting beaver. (Field, Unpublished manuscript [1913].) An Upper Liard informant (B) reported with some distaste that the Ross River Indians deliberately cultivated mold in meat that was later cooked. Such meat proved too strong for the taste of the Liard River people. [262]

[10] The method no doubt resembled that executed by a Frances Lake Indian in 1945. See Honigmann, *Culture and Ethos of Kaska Society* (1949), 40, 75-76; also Pl. 4, a and b.

6: Honigmann E-5 (1943-1945)1954 ND12 Nahane ND12

Upper Liard

501 505 396 [372] Despite their reported shyness of river travel the Upper Liard Indians recall manufacturing rafts, moose-skin boats, dugouts, and bark canoes. Five or more logs provided sufficient material for the construction of a raft, the parts being lashed together with the aid of two cross poles and spruce-root line. For dryness smaller poles were sometimes laid above these crosspieces and at right angles to them, being secured to their foundation with spruce-root cordage. In the center of a traveling raft people packed mud to provide a hearth suitable for a small fire. A raft pointed at the stern sometimes served hunters in autumn for hunting fowl. These craft are said to have been faster than the square raft.

501 505 [177] 396 In spring and summer the people traveled downriver in moose-skin boats that sometimes contained as many as ten moose hides. Smaller craft of this type, however, comprised only one or two skins. The larger skin boats accommodated up to 20 people while the smaller vessels held one or two men going on a hunting expedition, a division corresponding to the two types of canoes to be described below. Teit suggests that among the Tahltan moose-skin boats came to supplant bark vessels, perhaps after the introduction of the gun, which facilitated hunting. To construct such a boat women sewed together the hides with sinew, each skin overlapping the next by about two inches. The seams were sealed with moose grease. Spruce gum, our informant claimed, did not adhere well to moose hide. Preparation of the framework for the vessel constituted man's work and required first laying down a single spruce pole as a keel. The keel rested in the center of the sewn sheet of hides, the upturned ends being inserted into the edges of the tightly spanned skin in such a way as to arch the keel. A number of saplings provided the ribs of the vessel and were secured to the keel with babiche lashing. They also hooked into the edges of the hide. Completion of such a boat took no more than a day if both sexes cooperated. After one or two uses the hides remained useful for other purposes, but prolonged immersion in water caused them to rot. Teit advises that "these hide canoes have to be kept beyond the reach of dogs, which, when hungry, sometimes destroy them." Propulsion of the skin boat was by paddling. The vessels are recalled as having been both faster and safer than rafts, largely because half-submerged driftwood did not threaten them the way it menaced the raft.

501 396 [171] [177] For relatively long distance travel, which required the simultaneous transportation of household goods, people used dugouts which one informant (O) referred to as the "Liard River Indian boat." The native term for the vessel meant "something floating." Relatively rare in the Northern Athapaskan area, the dugout is, of course, common among the Pacific Coast Tlingit as well as on the Plateau. Its use among the Kaska may be regarded as a trait allying these people to the two adjacent areas. Construction of the craft among the Kaska closely approximated details of manufacture reported for the Tlingit. It may logically be suspected that the building of the dugout increased following the introduction of metal tools. Teit writes, "canoes were used on the Stikine, Taku, and some other streams and lakes. They were mostly dug-outs acquired from the Tlingit, but on the upper streams were made by themselves from cottonwood-logs."

Teit, *Notes on the Tahltan Indians of British Columbia* (1906), 345.

Teit, *Notes on the Tahltan Indians of British Columbia* (1906), 345. There is evidence that the dugout may be an old feature of circumpolar culture dating to Boreal times. (Spaulding, *Northeastern Archae-*

Upper Liard

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Material for such a boat consisted of a 20-foot (?) cottonwood tree secured in the spring "when the sap is running." The interior of the hull was hollowed out with the aid of a stone knife, the sides being thinned to a thickness of about one and one-half inches. Pins of birch, strong enough to penetrate cottonwood, kept the hollowing out process from going too deeply. Water was then poured into the excavated trunk and heated with great pile of hot stones. Rocking the hull back and forth assured even soaking and softening. Meanwhile about two dozen alder braces were forcefully inserted to spread the sides further apart. A pair of sticks always crossed each other at right angles. As a further precaution to prevent the soft wood from splitting, the craftsmen securely lashed stern and bow with babiche line.[illegible] Midships, the width of a dugout averaged about three and a half or four feet. When the wood had been stretched to this width, the braces and babiche lashing came away. Manufacture of the boat occupied a week or ten days and, if cared for, the vessel might last for ten years. Water, however, warped the hull so that when the vessel was not in use it was carefully placed on a boat rack. In winter a bark cover kept off snow. When navigating in a dugout the people crouched on a board placed low in the hull. Four men sometimes paddled, women sitting amidships where they could also paddle. From six to ten people could be accommodated in such a vessel.

Despite the informant's appellation of the dugout as the "Liard River Indian boat" it is reasonable to expect that the simpler construction of the spruce bark canoe made this the most common means of water transportation. In 1906 Teit reported bark canoes to have already been displaced in the Cassiar but from descriptions obtained he concluded that they appeared "to have been similar in type to those still used on the Canadian Yukon, having high, narrow, projecting prows and sterns, flat bottoms, and the bark put on in longitudinal strips."[illegible] Made in the spring, when the bark peeled most readily, these craft ranged in size from about 15 feet (for a hunting and fishing canoe used by one or two men or women) to about 19 feet for a boat accommodating up to 10 travelers. The latter figures correspond closely to those given for the dugout and also with information secured by Osgood among the Ingalik.[illegible] The canoe was constructed around a mold consisting of half-dozen or so short sticks driven into the ground. The outer surface of the bark became the interior of the hull and each gunwale was sewn between two spruce saplings. Ribs, consisting of spruce saplings, snapped in place under the gunwales and did not have to be lashed into position. The bow and stern were sewn with spruce-root line and pitched with spruce gum. Construction of a good spruce-bark canoe occupied about one and a half days. If well cared for, that is, drawn out of the water or stored on a boat rack when not in use, such a boat lasted an

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ology and General Trends in the Northern Forest Zone (1946), 131.) We have also heard that the Lapps used hollowed out logs as toboggans drawn by reindeer. (Personal communication from Knute Hillgren, Lower Post.)

[illegible] For an exact duplication of this technique of boat building among the Tlingit see Jones, *Study of the Thlingets of Alaska* (1914), 79. Also Krause, *Tlinkit-Indianer* (1885), 170-171. Cottonwood dugouts were in use among the Chilkat. Drucker, *Culture Element Distributions: XXVI, Northwest Coast* (1950), 181.

[illegible] Teit, *Notes on the Tahltan Indians of British Columbia* (1906), 343.

[illegible] Osgood, *Ingalik Material Culture* (1940), 362, 373

Upper Liard
Dease River

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396
entire summer. A cruder type of spruce-bark vessel, containing a single-pole gunwale and brace ribs, served to cross a river and might be manufactured in an hour or two. After serving its purpose it was discarded. Spruce craft remained undecorated. When employed for hunting beaver, the hulls might be blackened with charcoal in order to make the vessels resemble sticks of driftwood. The occupants of a bark canoe sat on piles of moss about six inches thick, legs being tucked under the body and feet flaring out at a slight angle. When he wearied of this position a man stretched his legs out in front of him but he never sat with crossed legs. Upon sighting game the Indian pointed the craft in the direction of the animal before letting his arrow fly. Shooting from the boat at an acute angle to the hull threatened capsizing. Spruce canoes constituted fragile craft. The informant recalled one that broke under the weight of a moose. While any man might try his hand at making such a vessel, a certain amount of skill was prerequisite and occasionally able men made canoes in exchange for skins and arrows. Ownership of the bark vessel lay in the man but women freely used the smaller variety for fishing. [422]

As we have pointed out, the scarcity of white birch in the region of the upper Liard River prohibited the manufacture of birch-bark canoes. In 1843 Campbell had to send from Fort Halkett to Fort Liard for this material in order to construct canoes for exploring the Pelly River.[illegible] Decked canoes and sails likewise did not exist and only rarely did travelers lash their canoes in pairs. Sometimes this practice occurred in smooth water, when two families moved camp together. In dangerous water the boats separated.

Men constructed paddles from spruce wood, the handle being shaped with a rounded knob at the upper end.[illegible] A hole drilled through this knob admitted the paddler's finger and gave him a firmer grip. Blades contained a center ridge from which the wood tapered to thin edges. For bailing voyagers employed a dipper carved from birch wood but minus any handle.[illegible] Bailers were sometimes decorated.

481
Indians forded rivers by swimming in cases where an exceptionally strong current prohibited the use of rafts. The swimmers clutched a floating pole as they paddled.[illegible] Women crossed simultaneously with men but a short distance further downstream. Everyone in the aboriginal community knew how to swim.

491
[illegible]
[illegible]
Dease River Kaska. Winter land transportation in the Dease River basin depended on skin and wood toboggans as well as on snowshoes. The sled remained unknown until introduced by Euro-Canadians. The skin stripped from the leg of a caribou made a useful vehicle in which to haul meat over loose snow. Wooden toboggans utilized spruce or birch wood and lacked the sharply upturned nose characteristic of the northern style

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[illegible] Campbell, *Discovery and Exploration of the Pelly (Yukon) River* ([illegible]).

[illegible] Crutch-handle paddles were in general use on the Northwest Coast. Drucker, *Culture Element Distributions: XXVI, Northwest Coast* ([illegible]), [illegible].

[illegible] Bailers consisting of a wooden scoop are widespread on the Pacific Coast while bark bailers are more characteristic of the Plateau. Drucker, *Culture Element Distributions: XXVI, Northwest Coast* ([illegible]), [illegible]; Ray, *Culture Element Distributions: XXII, Plateau* ([illegible]), [illegible].

[illegible] Judging from [illegible]'s data, swimming floats have rarely been reported for North America. [illegible], *Water Transport* ([illegible]), [illegible].

[illegible] River
Tanaina

[illegible]

with [illegible] forced into the canal. One man believed that double paddles had been employed a very long time ago.[4]

Cradles. Babies were secured in [illegible] bags [illegible] with moss. [illegible] baby [illegible] could not be [illegible]. After a year or two a baby [illegible] the baby bag until the child was supported itself on the mother's back. [illegible] a baby sleeps in a [illegible] hammock.

[4] [illegible]